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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,125	07/10/2003	Akihito Mori	5259-000026	2982

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EXAMINER

ZIMMERMAN, JOHN J

ART UNIT PAPER NUMBER

1775

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/617,125

Applicant(s)

MORI ET AL.

Examiner

John J. Zimmerman

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1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-12 is/are allowed.
- 6) ☒ Claim(s) 1 and 3 is/are rejected.
- 7) ☒ Claim(s) 2 and 4-7 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7/10/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20030710
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

FIRST OFFICE ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The Information Disclosure Statement received July 10, 2003 has been considered. An initialed form PTO-1449 has been enclosed with this First Office Action.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai (U.S. Patent 6,475,635).

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5. Sakai discloses applying a layer of material on a metal substrate wherein a network region of a soft material (7) surrounds a harder material (6) as shown in Figure 1 (see description in column 7, lines 47-64). The layer can be made by applying different kinds of copper or copper alloy powder having grain sizes of not more than 250 μm (e.g. see column 5, lines 6-23). The hardnesses of the harder and softer materials are given in Table 1 and appear to fall directly in the claimed Vickers hardness number ranges including the requisite difference in Vickers hardness numbers (e.g. see Embodiments 1-7). The harder and softer materials can be made of alloys containing tin (e.g. see Table 1). Sakai may differ from the claims in that Sakai not require that the average size of the network of the soft region is from 5 to 500 μm , but in view of the disclosed not more than 250 μm grain size of the copper alloy powder and the representation of the regions in Figure 1, appears that the average size of the soft material network appears to reflect the grain size and would greatly overlap the claimed average size of the softer region network. In addition, the mixture ratio in Table 1 indicates that the network spacing between the harder regions would be the size of the softer powder. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use powder sizes over the entire size range disclosed by Sakai because Sakai discloses a range up to 250 μm grain size to be his invention.

Allowable Subject Matter

6. Claims 8-12 are allowed. Claims 2 and 4-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record shows various

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embodiment where hard and soft regions are produced in layers. The reflow method used in claims 8-12 is not disclosed or made obvious for the production of a network of soft material and hard regions in the Vickers hardness values and network size required by these claims.

Regarding claim 2, the claimed range in the soft region height is not shown or made obvious by the art of record for layers meeting the limitations of the independent claim. In addition, for claims 4-5, there is no motivation in the prior art of record to use the substrate compositions of these claims in materials meeting the limitations of the independent claim. Although the recitations of terminal members and connectors in claims 6 and 7 do not require any specific claimed configurations, a reasonable person in the art would not consider a sliding bearing of Sakai (e.g. an engine bearing) to be a terminal member/connector or remotely useable as such.

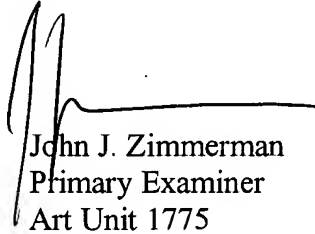
Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additionally cited prior art serves to further establish the level of ordinary skill in the art at the time the invention was made.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Zimmerman whose telephone number is (571) 272-1547. The examiner can normally be reached on 8:30am-5:00pm, M-F. Supervisor Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John J. Zimmerman
Primary Examiner
Art Unit 1775

jjz
June 17, 2005